

# **Experiences with Sensor Quality Control & Error Check Processes**

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# NETN Calibration Procedures for YSI 600XL

## Conductance:

- Calibrate with 1mS (1000uS) standard (*monthly or as needed*)
- Daily pre-mob check with 100 and 12.9 standard
- Record values and cell constants in logbook

## Dissolved Oxygen (membrane):

- Physical check of probe and membrane
- Daily pre-mob calibration (100% sat)
- Record values and DO gain, etc. in logbook
- Calibration in field prior to each profile
- Record field calibration values on log sheet and in logger file
- Take random duplicate readings after every 5<sup>th</sup> profile
- Obtain/record 100% sat reading after each profile

# **NETN Calibration Procedures for YSI 600XL**

## **Temperature:**

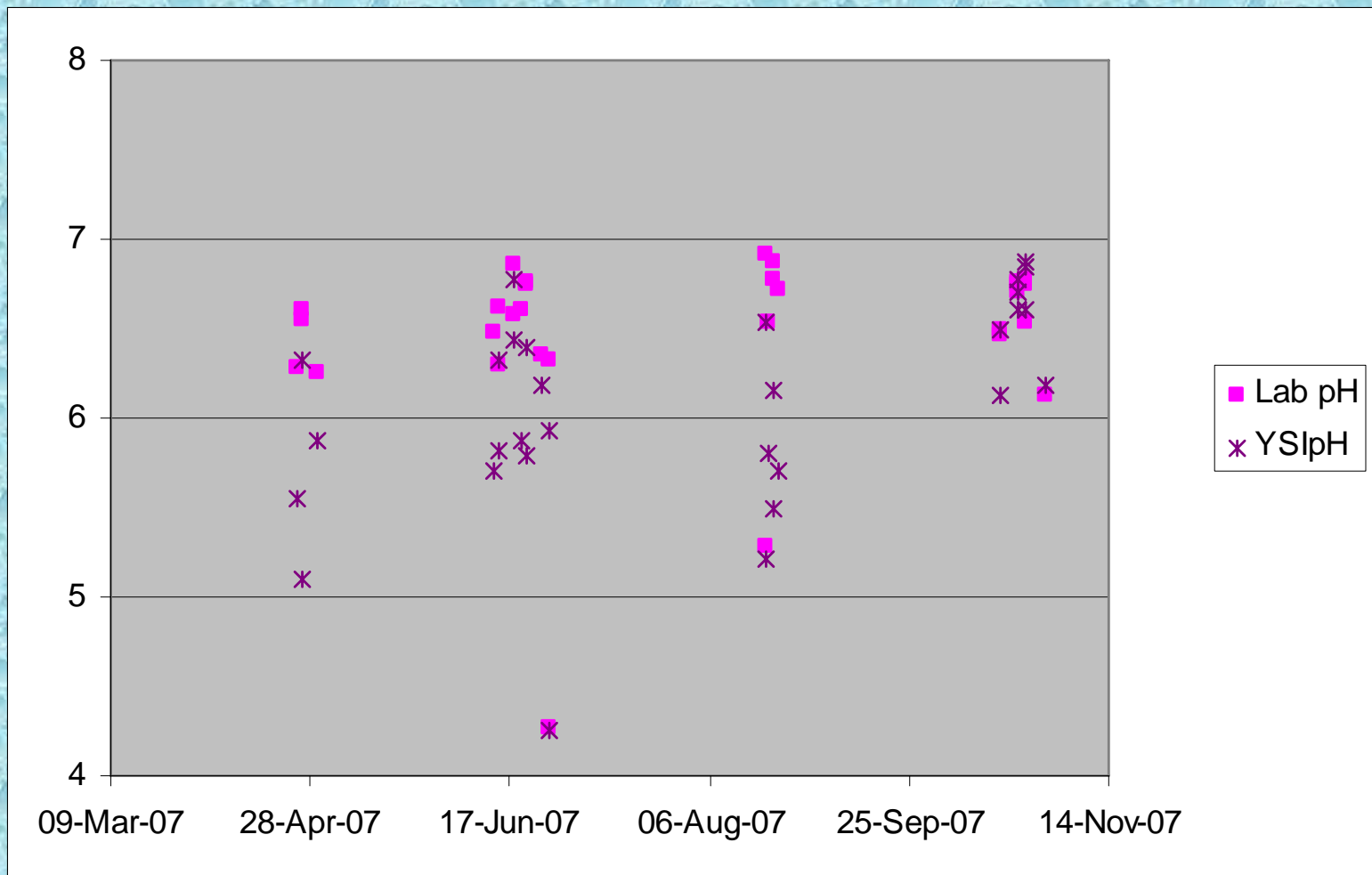
- Daily pre-mob check with lab thermometer (Hg)
- Check surface value in field with digital thermometer

## **pH:**

- Daily pre-mob 2 point calibration (pH 7 & pH 4)
- Record mV, temp correction values, etc. in logbook
- 1 point (pH 7) calibration in field if surface water temp < 10C. Buffer chilled to ambient temp.
- Record field calibration values (if applicable) on log sheet.

## pH Sensor Issues in 2007 Sampling Season

- sensor in 2<sup>nd</sup>+ year of usable shelf life
- inaccurate values not detected by field personnel
- no low ionic strength check sample in protocol  
*(calibration values within acceptable range until Sept.)*
- laboratory pH values not available promptly *(no in-house dup. measurements taken)*



## Changes for 2008 Sampling Season

- New pH sensor! (*w/ readily available backup*)
- add low ionic strength pH check sample to daily pre-mob routine
- analyze duplicate grab sample in ACAD lab for pH and spCond (every 5 samples)
- promptly compare sonde pH & spCond values with contract laboratory values
- provide expected range of field chemistry values to monitoring team